

Haren S. Gandhi

Brief Biography: Dr. Haren S. Gandhi has distinguished himself in leading-edge research, development, and implementation of automotive exhaust catalysts at the Ford Motor Company Research Laboratory since 1967 - well before the broad commercial implementation of catalytic converters in 1975. He has conducted pioneering research in the areas of three-way catalysts (TWC), catalysts for alternative fuels, oxygen storage components in TWCs, poisoning of automotive catalysts, and novel catalyst formulation strategies. His work has resulted in 65 technical publications and over 40 U.S. patents in automotive exhaust catalysis and related areas. Presently he carries the title of Ford Technical Fellow - the highest rank of scientist/engineer in Ford Motor Company. His responsibilities include overseeing virtually all of Ford's R&D efforts in the area of automotive exhaust catalysis. Many of the advances in catalyst technology he has commercialized at Ford have subsequently been adopted throughout the industry, arguably setting him apart as the most influential person in the history of automotive exhaust catalysis.



Nowhere are the fruits of Dr. Gandhi's efforts more apparent than his contributions to the efficient and wise use of the precious metals - platinum, palladium, and rhodium - that are the key active components of automotive exhaust catalysts. These strategic and expensive metals catalyze the conversion of the pollutant species - hydrocarbons, carbon monoxide and nitrogen oxides - to harmless species such as carbon dioxide gas, water vapor, and nitrogen gas. At each stage in the evolution of automotive catalyst technology, Dr. Gandhi's research has suggested ways of optimizing these metals to the particular application at hand, always cognizant of constraints placed by factors such as engine control technology, fuel quality, and lubricant composition. His research led directly to the commercialization of Pd/Rh catalyst technology (in place of the traditional Pt/Rh catalysts) in 1989 and Pd-only catalyst technology in 1994, both with tremendous cost savings and performance benefits relative to earlier formulations. More recently, he has directed additional improvements in catalyst technology that allow substantial reductions in the amount of precious metal required and balance the use of the precious metals with their global availability. These efforts, combined with career-long efforts to promote recycling of precious metals from high-mileage spent catalytic converters, have laid the basis for a sustainable world

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supply of precious metals for future generations. To this end, Dr. Gandhi has played a leading role in improving the quality of the air we breathe today while ensuring a clean-air endowment for the future as well.

Dr. Gandhi received his B.S. in Chemical Engineering from the University of Bombay in 1963, and his M.S. and D. Eng. degrees in Chemical Engineering from the University of Detroit in 1967 and 1971, respectively. He has received numerous honors throughout his career including Chemical Engineer of the Year (Detroit Section AIChE, 1984), the Crompton Lanchester Medal (Institution of Mechanical Engineers, U.K., 1987), a Ralph Teetor Industrial Lectureship Award

(SAE, 1988-89), Discover Magazine Award for Technical Innovation (1990), the Exxon Award for Excellence in Catalysis (1992), a National Association for Science & Technology Award (1994), and a PNGV Medal (Partnership for a New Generation of Vehicles) for Technical Accomplishments Government-Industry Teamwork (1997). In September of 2000, Dr. Gandhi was one of a handful of individuals honored as part of a celebration marking 25 years of advanced motor vehicle emission control technology. Specifically, Dr. Gandhi was cited by the Manufacturers of Emission Controls Association at a reception at the U.S. Capitol for his "contributions in cleaning the air we breathe." Dr. Gandhi is also a member of the National Academy of Engineering.

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